



## Corps, Army, tribes tackle Herculean clean-up

*Native history, military munitions share former depot*

Story and photos by Mike W. Petersen USACE South Pacific Division Public Affairs



**David "Doc" Holladay, an ordinance and explosives safety expert from the U.S. Army Corps of Engineers' Albuquerque District, stopped to point out old ordinance that is commonly found in various parts of New Mexico in February 2007. Bombing ranges were prevalent during the World War II era and were critical to the training of U.S. aircrews. Some remnants known as unexploded ordinance, are periodically found by passersby near and on the formerly used defense sites, and can still pose a danger.**

The landscape of New Mexico's high desert can be breathtaking. In almost any direction, the potential for an Ansel Adams masterpiece confronts the viewer. But despite the beauty of Fort Wingate, N.M., there are no visitors aside from a select few.

Walking a stretch of gravel range

roads, David "Doc" Holladay, an ordinance and explosives safety expert from the U.S. Army Corps of Engineers' Albuquerque District, stopped to take in the view during a visit to the site in February.

"I really don't mind the long drive out here," Holladay said as he surveyed

the scene. "It's one of the perks of the job."

He is one of a handful of people that can walk the hills of Fort Wingate safely. After all, Holladay has been disarming munitions for decades. A few moments later he stopped and points

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down to a dry arroyo, where seasonal rains periodically turn a dry trench into a raging river. "I found part of a 10,000 pound bomb over there, probably 7,000 feet from where it was detonated."

Fort Wingate, a former Army Ammunition Depot, closed in 1995 under the first round of Base Realignment and Closure. From World War I until its closing, it served as both a storage and disposal site for military munitions. An incalculable amount of munitions were disposed of at the depot, mainly through methods that, though easy at the time, create huge challenges for Holladay. He is part of a collaborative team working to clean up Fort Wingate after nearly a century of munitions disposal.

The standard method of disposal at Fort Wingate was to burn or detonate piles of munitions. The resulting discharges threw shrapnel and munitions over a wide area. With years of rains and snow melt washing through the arroyos, some remnants have been scattered well beyond the original disposal area, Holladay said.

While the inert shrapnel doesn't create a direct hazard to human life, it hints at the presence of unexploded ordnance.

After World War II, the depot started disposing of Improved Conventional Munitions, popularly known as cluster bombs. Each bomb (or artillery round) is packed with smaller bombs meant to disperse over a target area. Often some of these "bomblets" do not detonate. The percentage of "dud" bomblets varies, but some sources estimate that 5-15

percent remains unexploded.

"There's quite a mix of munitions, from small projectiles to a Navy 14-inch shell. We don't know how that ended up here," Holladay said.



***World War II era bomblets lay exposed in a cluster in a field in New Mexico on the western side of the state.***

Coordinating the munitions cleanup mission is the USACE South Pacific Division Range Support Center. While the name implies services to active ranges, the RSC handles military munitions cleanup and support across a wide spectrum of mission areas, according to Vince Del Greco, RSC program manager at the Division headquarters in San Francisco.

The SPD RSC is one of five military munitions design centers. Four of the design centers deal with conventional munitions. A fifth in Huntsville is specialized to handle chemical munitions cleanup.

"All the other centers are located at a particular (Corps) district," Del Greco said. "The SPD Design Center is virtual with members distributed among our districts. We have program manag-

ers, environmental engineers, geophysicists, archaeologists, biologists and ordinance and explosives safety specialists. Every district has some of these, but not all."

Rather than duplicate these skills in every district, the SPD team acts as a network of technical experts that performs all military munitions work within the South Pacific Division as well as missions outside the regular SPD area of operations. The network of experts is ultimately Corps-wide, with regular working relationships among the design centers that provide assistance in a military munitions cleanup effort, Del Greco said. This peer review can be invaluable when the design center is presented with a task as complex as Fort Wingate.

"The [Fort Wingate] site is not easy," he said. "In doing it with the RSC, we've found that for some things, it's easier to bring help from outside. Having these people makes it easy to get technical experts involved. Also, we're used

to doing things regionally, so we have preexisting relationships."

The diverse skills of the RSC are applied in missions that transcend the USACE mission areas: the team has worked on environmental restoration, Formerly Used Defense Site cleanup, BRAC (such as Fort Wingate,) military construction and civil works projects. They also, as their name implies, support active ranges at installations like Fort Irwin, Calif.

In Del Greco's experience, there are two common administrative problems

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in cleaning up munitions: either range records are too plentiful and conflicting, or there is a lack of records to consult.”

“At Fort Wingate, we have both problems at different places,” said Del Greco. “It’s large and complicated, both physically and figuratively. We’re used to thinking about Hazardous, Toxic and Radioactive Waste. In a typical situation, HTRW reaches out and grabs you. For munitions, you have to do something. The presence [of munitions] isn’t the hazard. It’s the interaction.”

With archaeological sites from at least three Native American tribes on the fort, the potential for that interaction could mean life or death. The land on which Fort Wingate sits is historically tribal land belonging to the Navajo and Zuni tribes. In addition to cultural and archaeological sites related to the Zuni and Navajo tribes, ancient Anasazi sites have been found in the installation. The cultural and historical considerations have made the clean-up a unique experience.

“The munitions clean-up is the biggest portion of the clean-up,” said Mark Patterson, environmental coordinator for the Department of the Army’s Fort Wingate Depot Activity. “But the archaeological sites are part of a continuing process. It’s likely we’ll never even find them all.”

The tribes have been integral to the process of cleaning up Fort Wingate,

according to Patterson. Permits have been drafted to require consultation with the tribes throughout the process, and Navajo and Zuni archaeologists work alongside the Army and USACE to ensure that no damage is done to cultural artifacts.

Tribal involvement has also been pivotal in the safety of the clean-up area. The tribes and the Bureau of Indian Affairs requested fencing along the Navajo border of the depot, said Patterson. As a result, three miles of six-foot chain link fence with barbed wire were erected along the border of the depot to reduce the risk of any accidental interaction with UXO. Constructed in less than two months in 2006, the fence runs across hills, up mountains and through arroyos, sometimes through places which appear nearly inaccessible to all but the most able rock climber.

“There have been no known incidents with UXO, and considering was done here, that’s a pretty remarkable safety record,” Patterson said.

Even with a projected finish date of 2020 under current funding, Patterson says that only so much can be achieved in the clean-up effort. The indeterminable amount of munitions across the 22,000-acre installation may prevent a 100-percent clean-up, but with the collaborative efforts of the Army, USACE and the BIA, a large portion of Fort Wingate can be returned to the tribes.

This includes buildings and infrastructure that can benefit both tribes culturally and financially by creating revenue for the nations. Roughly 20 miles of rail infrastructure and warehouses run through Fort Wingate and carry goods shipped from the West Coast to the eastern states, said Patterson.

“The large majority of the land will be cleaned up to residential standards,” he said. “We’ll be returning 7,000 acres to the tribes, but some land will have to remain for passive use only for cultural sites.”

Another 6,000 acres of Fort Wingate will remain with the military as part of test launches to White Sands Missile Range. Patterson said that launches have been scheduled in advance at least another decade.

For Patterson, who has worked at Fort Wingate since 2005, the RSC team has made the Herculean effort seem a little easier.

“I’ve worked with quite a few people at the Corps, and they are really focused on the team effort,” he said. “Sometimes, under difficult circumstances, they’ve worked hard to move the project forward.”

With a diverse team working the diverse issues on the depot, progress continues toward a time when people can walk the stunning landscape of Fort Wingate without the aid of Holladay’s explosives expertise.

